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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/791,760	03/04/2004	Masahiro Sueyoshi	249943US6	5272

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EXAMINER

KANE, CORDELIA P

ART UNIT	PAPER NUMBER
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2109

NOTIFICATION DATE	DELIVERY MODE
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06/06/2007

ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary

Application No.

10/791,760

Applicant(s)

SUEYOSHI ET AL.

Examiner

Cordelia Kane

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 04 March 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-27 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-27 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 04 March 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date 7/21/04.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____.

DETAILED ACTION

1. This action is responsive to the non-provisional application filed on March 4, 2004. Claims 1 – 27 are pending. Claims 1, 17, 23 and 27 are independent.

Specification

2. The disclosure is objected to because of the following informalities: The lengthy specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

Claim Objections

3. Claim 25 is objected to because of the following informalities: at the end of the claim it states said second step and is not followed by anything. Appropriate correction is required.

Claim Rejections - 35 USC § 112

4. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

5. Claim 12 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim contains subject matter which was not

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described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

The applicant refers to recognizing mutual legitimacy but at no point in the specification do they explain how this occurs.

6. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

7. Claims 1 – 27 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. It is unclear exactly what the applicant is claiming. It appears that this may have been a quick translation. The examiner will do the best job possible to interpret what was meant in each of the individual claims.

8. Claim 19 recites the limitation "said function module". There is insufficient antecedent basis for this limitation in the claim.

9. Claim 21 recites the limitation "said key holding means". There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 101

10. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

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11. Claims 23 – 26 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. The claims lack the necessary physical articles or objects to constitute a machine or a manufacture within the meaning of 35 USC 101. They are clearly not a series of steps or acts to be a process nor are they a combination of chemical compounds to be a composition of matter. As such, they fail to fall within a statutory category. They are, at best, functional descriptive material *per se*.

12. Descriptive material can be characterized as either “functional descriptive material” or “non-functional descriptive material.” Both types of “descriptive material” are non-statutory when claimed as descriptive material *per se*, 33 F.3d at 1360, 31 USPQ2d at 1759. When functional descriptive material is recorded on some computer-readable medium, it becomes structurally and functionally interrelated to the medium and will be statutory in most cases since use of technology permits the function of the descriptive material to be realized. Compare *In re Lowry*, 32 F.3d 1579, 1583-84, 32 USPQ2d 1031, 1035 (Fed. Cir. 1994).

13. Merely claiming non-functional descriptive material, i.e., abstract ideas, stored on a computer-readable medium, in a computer, or on an electromagnetic carrier signal, does not make it statutory. See *Diehr*, 450 U.S. at 185-86, 209 USPQ at 8 (noting that the claims for an algorithm in *Benson* were unpatentable as abstract ideas because “[t]he sole practical application of the algorithm was in connection with the programming of a general purpose computer.”).

Claim Rejections - 35 USC § 102

14. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

15. Claims 1 – 25 and 27 are rejected under 35 U.S.C. 102(e) as being anticipated by Akihisa Kawasaki's US Patent 7,010,688 B1. Referring to claim 1, Kawasaki teaches:

- a. The system end equipment performs authentication with a device using key data (column 12, line 18).
- b. The system end equipment is capable of generating the key data based on information received (column 13, lines 37-38).
- c. System end equipment has first data, the secret key, and second data, the equipment information (column 13, lines 36-40). Since the system end equipment has both the key generating means and the authentication means the passing of information is inherent.
- d. The system end equipment produces the key data, secret information, using both the secret key and the equipment information (column 13, lines 36-40).

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16. Referring to claim 2, Kawasaki teaches that the key data generated in claim 1 is unique to the device (column 4, lines 41-45).

17. Referring to claim 3, Kawasaki teaches:

e. The system end equipment receives first data, the secret key, that is used in generating the key data (column 13, lines 36-40). The system end equipment also generates second data, random digit (column 13, lines 54-55).

f. The authenticating means is also part of the system end equipment so it inherently is supplying both the first data and the second data.

18. Referring to claim 4, Kawasaki teaches that the secret information produced by the key generating means is then used for encryption and decryption in the next phase (column 13, lines 43-49).

19. Referring to claim 5, Kawasaki teaches:

g. The device, or user end equipment, provides the unique equipment data to the system end equipment (column 13, lines 22-24).

h. The system end equipment then uses the unique equipment information to generate the systems secret information (column 13, lines 35-40).

20. Referring to claim 6, Kawasaki teaches the authenticating means, and key generation means as explained in the claims above. It is inherent that these would be realized using a computer program.

21. Referring to claim 7, since Kawasaki teaches that both the key generating means and the authentication means are part of the system end equipment it is inherent that there is shared storage between them.

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22. Referring to claim 8, Kawasaki teaches that the system end equipment holds a secret (master) key that is used in generating the secret information (column 13, lines 38-40).

23. Referring to claim 9, Kawasaki teaches the key holding means as explained above. It is inherent that this would be realized using a computer program.

24. Referring to claim 10, Kawasaki teaches that there is also a key center that holds the same secret key as the system end equipment (column 13, lines 40-42). Therefore it would be inherent that the secret key is updated independently of the authenticating means, since the key center does not perform the authenticating.

25. Referring to claim 11, Kawasaki teaches that multiple key generation algorithms may be employed depending on what equipment is enabled (column 20, lines 15-26).

26. Referring to claim 12, Kawasaki teaches performing mutual authentication where the first device is authenticated (column 14, lines 12-13) and then the second device is authenticated (column 14, lines 42-44) before any communicating, or processing, takes place (column 14, line 57).

27. Referring to claim 13, Kawasaki teaches:

i. The system end equipment uses the user information to produce the secret information (column 13, lines 35-40).

j. The secret (fixed) key is used to perform the first authentication (column 13, lines 35-40) then the secret information that is produced is used for encryption and decryption in the next phase (column 13, lines 43-49).

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28. Referring to claim 14, Kawasaki teaches that the secret information produced using the fixed key data is then used for encryption and decryption in the second authentication process, or key sharing phase (column 13, lines 43-49). Once the key sharing phase/authentication is completed the data communications can begin (column 14, lines 55-58).

29. Referring to claim 15, Kawasaki teaches:

k. The system end equipment holds the fixed key (column 13, line 40).

l. The system end equipment produces the secret information using both the fixed key data, and the user equipment information (column 13, lines 35-40).

30. Referring to claim 16, Kawasaki teaches:

m. The system end equipment holds the information on the processing (cryptographic algorithm) to be performed (column 13, line 36).

n. The system end equipment produces the secret information using the secret key (column 13, lines 35-40).

31. Referring to claim 17, Kawasaki teaches:

o. System end equipment has first data, the secret key (column 13, lines 36-40), and second data, a random digit (column 13, lines 54-55). Since the system end equipment has both the key generating means and the authentication means the passing of information is inherent.

p. The system end equipment produces the key data, secret information, using the secret key (column 13, lines 36-40).

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- q. The system end equipment performs authentication with a device using key data (column 12, line 18).
32. Referring to claim 18, Kawasaki teaches that the key data generated in claim 17 is unique to the device (column 4, lines 41-45).
33. Referring to claim 19, Kawasaki teaches:
- r. The system end equipment receives first data, the secret key, that is used in generating the key data (column 13, lines 36-40). The system end equipment also generates second data, random digit (column 13, lines 54-55).
 - s. The authenticating means is also part of the system end equipment so it inherently is supplying both the first data and the second data.
34. Referring to claim 20, Kawasaki teaches that the system end equipment uses the unique equipment information to generate the systems secret information (column 13, lines 35-40).
35. Referring to claim 21, Kawasaki teaches that the system end equipment holds a secret (master) key that is used in generating the secret information (column 13, lines 38-40). Since the key holding means is also part of the system end equipment it is inherent that the information is passed.
36. Referring to claim 22, Kawasaki teaches that there is also a key center that holds the same secret key as the system end equipment (column 13, lines 40-42). Therefor it would be inherent that the secret key is updated independently of the authenticating means, since the key center does not perform the authenticating.
37. Referring to claim 23, Kawasaki teaches:

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- t. System end equipment has first data, the secret key (column 13, lines 36-40), and second data, a random digit (column 13, lines 54-55).
 - u. The system end equipment produces the key data, secret information, using the secret key (column 13, lines 36-40).
 - v. The system end equipment performs authentication with a device using key data (column 12, line 18). Since the system end equipment has both the key generating means and the authentication means the passing of information is inherent.
38. Referring to claim 24, Kawasaki teaches that the key data generated in claim 1 is unique to the device (column 4, lines 41-45).
39. Referring to claim 25, Kawasaki teaches:
- w. The system end equipment receives first data, the secret key, that is used in generating the key data (column 13, lines 36-40). The system end equipment also generates second data, random digit (column 13, lines 54-55). The system end equipment produces the key data, secret information, using the secret key (column 13, lines 36-40).
 - x. Since the first input parameter and second input parameter are the same as the first data and second data, it is inherent that they are the same.
 - y. The system end equipment produces the key data (secret information) using the secret key (column 13, lines 36-40).
40. Referring to claim 27, Kawasaki teaches:
- z. That the system includes an IC card (column 6, line 67).

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- aa. The system end equipment performs authentication with a device using key data (column 12, line 18).
- bb. The system end equipment is capable of generating the key data based on information received (column 13, lines 37-38).
- cc. System end equipment has first data, the secret key (column 13, lines 36-40), and second data, a random digit (column 13, lines 54-55). Since the system end equipment has both the key generating means and the authentication means the passing of information is inherent.
- dd. The system end equipment produces the key data, secret information, using the secret key (column 13, lines 36-40).

Claim Rejections - 35 USC § 103

41. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

42. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

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Claim 26 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kawasaki as applied to claim 23 above, and further in view of Michel Ugon's US Patent 5,825,875.

Kawasaki discloses all the limitations of the parent claim. Kawasaki does not appear to explicitly disclose having different access rights from the authentication program.

However, Ugon discloses defining access rights to coincide with the key (column 7, lines 6-7). Kawasaki and Ugon are analogous art because they are from the same field of endeavor, private key encryption. At the time of the invention, it would have been obvious to one of ordinary skill in the art, having the teachings of Kawasaki and Ugon before him or her, to modify Kawasaki to include the access rights of Ugon. The motivation for doing so would have been more flexibility with user privileges. Therefore it would have been obvious to combine Ugon with Kawasaki to obtain the invention as specified in claim 26.

Double Patenting

43. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory

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double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

44. Claims 1, 11 – 16 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1 – 7 of copending Application No. 10/792,574 in view of Kawasaki. Claims 1 – 7 of 10/792,574 discloses a key generating means, and an authenticating means as well as limitations in the dependent claims. Claims 1 – 7 of 10/792,574 does not appear to explicitly disclose the authenticating means providing first and second data to the generating means, and using the data from the authenticating means to create the key. However, Kawasaki discloses:

ee. The system end equipment is capable of generating the key data based on information received (column 13, lines 37-38).

ff. System end equipment has first data, the secret key, and second data, the equipment information (column 13, lines 36-40). Since the system end equipment has both the key generating means and the authentication means the passing of information is inherent.

gg. The system end equipment produces the key data, secret information, using both the secret key and the equipment information (column 13, lines 36-40).

Claims 1 – 7 of 10/792,574 and Kawasaki are analogous art because they are from the same field of endeavor, device authentication using keys. At the time of the invention, it

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would have been obvious to one of ordinary skill in the art, having the teachings of Claims 1 – 7 of 10/792,574 and Kawasaki before him or her, to modify Claims 1 – 7 of 10/792,574 to include the authenticating means providing first and second data to the generating means, and using the data from the authenticating means to create the key of Kawasaki. The motivation for doing so would have been to be able to directly authenticate an IC card (Kawasaki, column 4, lines 30-31) . Therefor it would have been obvious to combine Kawasaki with Claims 1 – 7 of 10/792,574 to obtain the invention as specified in the instant claims.

This is a provisional obviousness-type double patenting rejection.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Cordelia Kane whose telephone number is 571-272-7771. The examiner can normally be reached on Monday - Thursday 8:00 - 5:00 EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Joseph Del Sole can be reached on 571-272-1130. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

CPK


JOSEPH DEL SOLE
SUPERVISORY PATENT EXAMINER

5/23/07